

An  
Inaugural Essay  
on  
Hæmoptysis.

Submitted to the examination  
of the

Trustees and Medical  
Professors of the

University of Pennsylvania.

For the degree of

Doctor of Medicine.

Thos. A. Cook

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Inaugural Essay

Thamphylus

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In the month of

October of the year

1874  
Signed at Philadelphia, Pa. 1874

## Preface

In obedience to that law of the University of Pennsylvania, which demands of those who become candidates for its honours in the department of Medicine, a Dissertation on some medical subject, I have written the following pages.

A consideration of my youth and inexperience, in conjunction with the liberality of those to whom the following Thesis is submitted, encourages me to expect their indulgence; and renders any apology for the imperfection of the following sheets superfluous. The subject I have chosen is hæmoptysis. This of itself being sometimes immediately a fatal disease and more frequently terminating in that deplorable scourge of mankind Phthisis Pulmonalis, which so often consigns to an early tomb, those who had





otherwise shone as stars in their respective spheres and shed usefulness around them, renders it a subject in my estimation of no small importance. In what I have written on the subject of haemoptoeis I pretend to nothing original; indeed as it is a disease that seems pretty well understood, (and therefore well suited to exercise the pen of youth and inexperience) what I shall say will be little else than a detail of the experience of others.

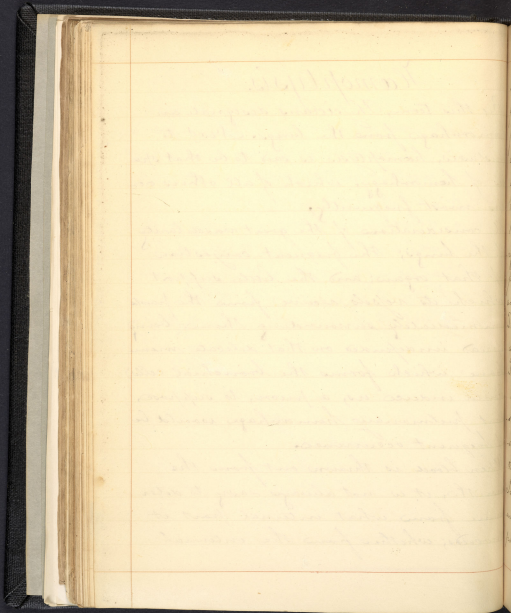


## Hæmoptysis.

By this term, Physicians designate an hæmorrhage from the lungs. Next to epistaxis, hæmoptysis is said to be that species of hæmorrhage; which of all others occurs most frequently.

A consideration of the great vascularity of the lungs; the frequent congestion of that organ; and the little support which its vessels receive from the parts immediately surrounding them, (being spread undepended on that delicate membrane which forms the bronchial cells) would induce us, a priori, to suppose, that pulmonary hæmorrhages would be of frequent occurrence.

When blood is thrown out from the mouth, it is not always easy to determine from what internal part it proceeds; whether from the internal



surface of the mouth itself; from the  
fauces or adjoining cavities of the nose;  
from the stomach, or the lungs; however  
when the blood is thrown out by coughing,  
after some previous affection of the breast,  
there is little doubt that it comes from  
the lungs. Hemoptysis is often a heredita-  
ry disease, which implies a peculiar and  
faulty conformation, transmitted from  
ancestors to their offspring.

The causes, both predisposing and exciting,  
are various.

There are few forms of disease, which  
come under the cognizance of the Phys-  
ician, in which the marks of predispo-  
sition, are more evidently perceptible,  
than in hemoptyses.

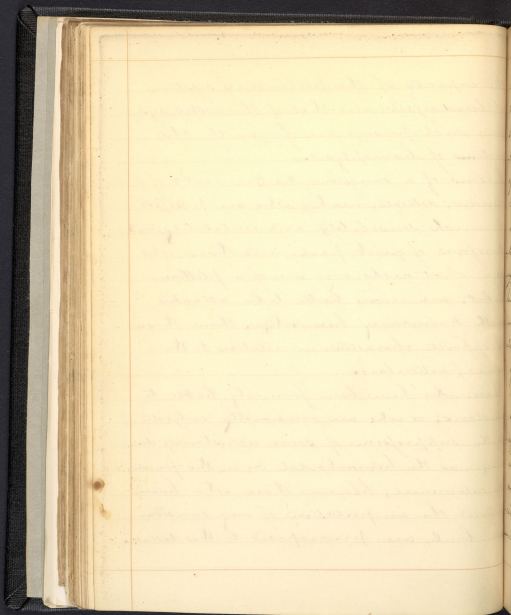
In some persons who have a narrow chest  
and prominent shoulders, a faulty pro-  
portion may be supposed to exist between



the capacity of the pulmonary system of bloodvessels, and that of the aortic system; such persons are frequently the victims of hæmoptysis.

Persons of a sanguine temperament, of a slender, delicate, make; who are possessed of much sensibility and irritability, and therefore of quick parts, and those who have short necks, and are of a plethoric habit, are more liable to be attacked with pulmonary hæmorrhage, than those of opposite characters, in relation to the above particulars.

Those who have been formerly liable to Epistaxis; or who are occasionally subjected to the suppression of some accustomed discharge, as the hæmorrhoidal or in the female, the catamenial; likewise those who have suffered the amputation of any considerable limb, are predisposed to this disease.





Hæmoptysis most commonly occurs about the age of puberty, or between the ages of sixteen and thirty five, but it may be occasioned by external violence at any period of life.

The Exciting causes are various. The most general of which are, external violence; violent exertions; as in lifting heavy weights, jumping, Wrestling &c; singing long continued and violent speaking, blowing wind instruments, Violent coughing &c.

Intemperance in living and the extremes of heat and cold, may also act as exciting causes.

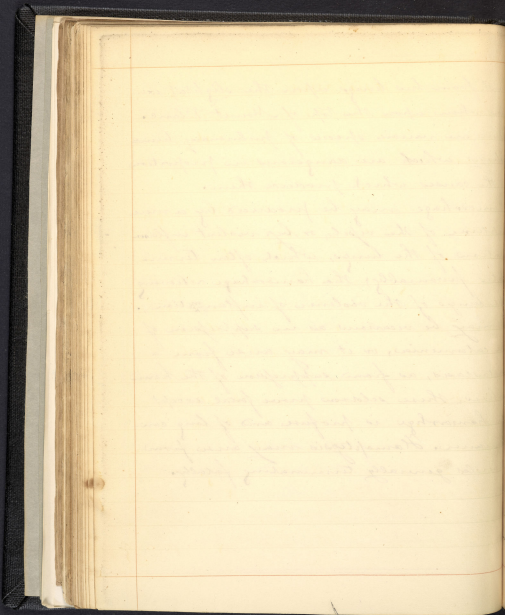
A rarified atmosphere also causes hæmorrhage; this was first noticed by De Saupure who ascended the Alps, and subsequently confirmed by Baron Humboldt, who ascended the vast Mountains of South America; De Saupure states, that hæmorrhage



burst from his lungs upon the slightest ex-  
citation, when upon the top of Mount Blanc.

There are various species of pulmonary hemo-  
rrhage, which are dangerous in proportion  
to the causes which produce them.

Hemorrhage may be produced by a rup-  
ture of the vessels, or by violent inflam-  
mation of the lungs, which often termi-  
nates favourably; the hemorrhage relieving  
the lungs of the violence of inflammation.  
It may be vicarious as in suppression of  
the catamenia, or it may arise from a  
metastasis, as from suppression of the hemo-  
rrhois, these seldom prove fatal except  
the hemorrhage is profuse and of long con-  
tinuance. Hamoptoeis may arise from  
tubercles generally terminating fatally.



## Symptoms.

Hæmoptysis is divided by Dr Cullen into active and passive; in the former there is an increase of the arterial excitement, in the latter a decrease.

When the hæmorrhage is from the lungs, the blood is spit up frothy, fluid, of a florid colour, and is brought up with more or less coughing, and preceded, generally, by a saltish taste in the saliva, a sense of fulness and oppression in the thorax, a degree of irritation at the top of the larynx, which causes a slight cough, also with a sense of heat under the sternum, pains in some part of the thorax and difficulty of respiration; though sometimes it is ushered in with shiverings, coldness of the extremities, pains in the back and loins, flatulency, costiveness and lassitude. The pulse in the first stage is generally



frequent, quick, full and hard, the blood is generally brought up first in small quantities, but sometimes large from the commencement.

## Diagnosis.

Hæmorrhage from the fauces is of more rare occurrence than from the lungs; it is rarely attended with fever and, generally, upon inspection the source of the blood becomes evident; the blood discharged is, rarely, if ever, of so florid a colour as that proceeding immediately from the lungs. In hæmatemesis the hæmorrhage is not preceded or attended with any pulmonary affection, as dyspnoea, cough &c; the blood is brought up by vomiting, and is darker coloured and grumous, generally larger in quantity, and mixed with the other contents of the stomach.





Hæmatemesis is distinguished also by its being usually preceded by a sense of weight, pain or anxiety in the region of the stomach; the pulse likewise for the most part is much more reduced by a hæmorrhage from the stomach than from the lungs; the pulse has been rendered almost imperceptible by a moderate hæmatemesis, which is rarely the case in hæmoptysis, except where the loss of blood has been very profuse, or the terror produced inordinately great.

### Prognosis.

If the discharge be small, if it be not the consequence of hereditary predisposition; if it be neither preceded nor attended by pulmonary complaints, as dyspnoea, pain &c. or if it appear in consequence of a rupture of a small vessel or follow pneumonic inflammation, it may generally



be considered as a favourable case.

A contrary state of things is to be regarded as more unfavourable.

### Treatment.

In the treatment of hamoptysis the practitioner will be influenced by the causes which produced it, as, well as by the general state of the system by which it is accompanied.

When called to a patient with hamoptysis attended with fever, hot, dry skin, sense of weight, oppression and some pain of the breast &c, we should detract blood in such quantity as to produce a diminution in the force of the arterial system.

In addition to bloodletting a general antiphlogistic regimen must be adopted; the patient must be kept completely at rest and have the room freely



ventilated, he should avoid speaking and the bowels should be kept in a soluble state.

### Muriate of Soda.

This may be given in doses of from  $\mathfrak{z}\text{i}$  to  $\mathfrak{z}\text{iv}$ ; it may be repeated every two hours or often-er; its effects are very prompt; Dr Rush employed it with success both in ham-optysis and hamatemesis, and in several cases of slight hamoptysis, I have known it wholly adequate in restraining the hemorrhage, how it acts is not very intelligible, but it is supposed the action excited on the trachea and fauces, is extended by sympathy to the lungs constricting the vessels and stopping the hemorrhage.

### Cold applications.

Cold applied to the scrotum or axillae,



has had a very good effect in restrain-  
ing hemorrhage. It was suggested by  
Darwin, and since recommended by  
others, to wrap the whole body up in a  
sheet made wet with cold water or vine-  
gar and water.

### *Saccharum Saturni.*

This was recommended by some of the  
old practitioners, it was condemned by  
Cullen and others on account of the temer-  
ity of the practice. The merit of restoring  
this medicine into practice is due  
to the late Dr. Barton, who approved  
and highly recommended it; it  
may be given in doses of from 5 to  
5 grains combined with opium in modern  
the proportions of two grains of this sac-  
charum saturni to half grain of opium.  
Professor Chapman gave a scruple of the





Saccharum Saturni; and even a drachm has been given without any dangerous consequences. It appears sufficient to restrain slight hæmoptysis, but does not appear fully adequate to arrest violent and profuse hæmorrhage, as in a very violent case of hæmoptysis, Dr. Chapman gave a scruple without restraining the flow of blood.

### Narcotics.

*Digitalis*. This article has been highly recommended, from its power of diminishing arterial action. It is nauseating and will sometimes produce vomiting; it appears best adapted to slight discharges of blood attended with pain in the breast or side and great irritability of system. —

the same old story, and now a tragedy  
has been made of it. But what is the  
meaning of it? It is a story of a  
man who has been in the world for  
many years, and who has seen many  
things, and who has learned many  
things, and who has become a man  
of the world. He is a man of the  
world, and he is a man of the  
world. He is a man of the world,  
and he is a man of the world.

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and he is a man of the world.

## *Hyoscyamus.*

This medicine (it is said), in different preparations, has been used successfully by the German Physicians.

## *Opium.*

Opium, as being a stimulant, would seem to be proscribed in active or tonic hæmorrhage at least. Yet in those cases of hæmoptysis which are unattended by fever, but where there is cough which seems to have the effect of aggravating the disease, opium has been administered with advantage, it allays the cough & general irritation and restlessness of the patient, and in this way has been efficacious in putting a stop to the flow of blood, especially when it depended on exertions occasioned by coughing.



## Emetics.

On the authority of Bayon Robinson, emetics have been considerably used. Although hemorrhage has been checked by spontaneous vomiting. (Dr Chapman saw a violent case of hemorrhage suppressed by a dose of digitalis which vomited) Yet emetics do not appear to be proper in the active state; they should not be employed in the commencement, if fever exists, except in small and frequently repeated doses, so as to keep up nausea, in such cases the tartarized antimony is said to be preferable. The vitriolic solution, has had a very good effect in stopping hemorrhage, given in nauseating doses, its effects in part, probably owing to its astringent virtues.

Exhibit

The following is a list of the  
items which have been  
received by the  
Committee on the  
part of the  
various  
departments of the  
Government  
and which are  
now in the  
possession of the  
Committee  
for their  
use in the  
preparation of  
the report.

## Specacuanha.

This, in combination with opium is preferred by Dr Chapman, he gives two grains of Specac. and half grain of opium every two hours so as to keep up a considerable degree of nausea. -

## Blisters.

Blisters are important in hæmoptysis. They have been known to check it when all other means have failed. They should be applied to the chest, though some advise them applied to the neck, others to the extremities.

The neutral salts have been recommended, nitrate of potash & Nitric is considered preferable. Dr Caldwell recommends nitric in large <sup>doses</sup> combined with  $\frac{1}{6}$  or  $\frac{1}{10}$  of a grain of tartarized Antimony, and in a case

Chlorophyll

is a substance with green color  
found in plants and green  
of Chlorophyll and is a  
very important part of  
the plant's life.

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of hamoptysis where the patient had febrile symptoms, I gave it as an auxiliary to the lancet with very happy effect.

### Passive Hamorrhagy.

In this we must resort to tonics, Poiravian bark united with calcheates have been recommended; vegetable astringents have been used as kino &c. The mineral acids are occasionally resorted to; of these the sulphuric is generally preferred, except in cases connected with scrofulous swellings where the nitric is much to be preferred. Malt liquors appear to exercise some influence over hamoptysis; of these port is preferable, as it is a liquid generally well retained by the stomach.

In conjunction with these remedies the patient should take a light nourishing diet, and use gentle exercise.



And to avoid a recurrence of this disease it is requisite to avoid all the exciting causes and excesses in eating, drinking and exercise, avoid taking cold which by bringing on inflammation would cause a recurrence, and remove as soon as possible any enteric or febrile diathesis by <sup>the</sup> lancet, diet and complete rest.

Nov

16th Mr. H. H. Johnson

